## AMENDMENT(S) TO THE CLAIMS

1

2

3    1.    (currently amended):  A method comprising:

4    receiving a data bitstream that includes object-based media information;

5    associating portions of the object-based media information with a plurality

6    of different transmission priority levels; and

7    selectively transmitting the portions of the object-based media information

8    along with the associated plurality of different transmission priority levels over a

9    network that is configured to provide differential services based at least on the

10    plurality of different transmission priority levels.

11

12    2.    (original):  The method as recited in Claim 1, wherein the data

13    bitstream includes object-based media information for a single object.

14

15    3.    (original):  The method as recited in Claim 2, wherein the single

16    object is a video object.

17

18    4.    (original):  The method as recited in Claim 2, wherein the single

19    object is an audio object.

20

1   5.   (currently amended):  The method as recited in Claim 1, wherein

2   associating portions of the object-based media information with the plurality of

3   different transmission priority levels further includes:

4        placing the portions of the object-based media information in a plurality of

5   data packets, wherein each data packet is associated with a specific transmission

6   priority of the plurality of different transmission priority levels.

7

8   6.   (original):  The method as recited in Claim 5, wherein at least one of

9   the plurality of data packets includes non-contiguous portions of data from within

10  the data bitstream.

11

12  7.   (currently amended):  The method as recited in Claim 5, wherein

13  selectively transmitting the portions of the object-based media information over

14  the network further includes:

15       causing the network to selectively halt the transmission of a first data

16  packet carrying object-based media information that is associated with a first

17  priority level prior to halting the transmission of a second data packet carrying

18  object-based media information that is associated with a second priority level prior

19  if the second priority level is higher than the first priority level, should a need arise

20  while transmitting the first and second data packets.

21

22  8.   (original):   The method as recited in Claim 1, wherein the

23  differential services provide different substantially guaranteed Quality of Service

24  (QoS) transmission capabilities for different transmission priority levels.

1

2    9.    (original):  The method as recited in Claim 3, wherein the object-

3    based media information includes a plurality of different types of video frame

4    layers selected from a group that includes Intra (I) coded frame layers, Predicted

5    (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I) coded frame

6    enhancement layers, Predicted (P) frame enhancement layers, and Bi-directionally

7    (B) predicted frame enhancement layers.

8

9    10.    (original):  The method as recited in Claim 9, wherein associating

10   portions of the object-based media information with the plurality of different

11   transmission priority levels further includes:

12       setting the transmission priority levels based at least in part on the type of

13   video frame layer.

14

15   11.    (original):  The method as recited in Claim 10, wherein setting the

16   transmission priority levels based at least in part on the type of video frame layer

17   further includes:

18       causing Intra (I) coded frame layer data to have a higher transmission

19   priority level than Predicted (P) frame layer data;

20       causing Predicted (P) frame layer data to have a higher transmission

21   priority level than Bi-directionally (B) predicted frame layer data;

22       causing Bi-directionally (B) predicted frame layer data to have a higher

23   transmission priority level than Intra (I) coded frame enhancement layer data;

1        causing Intra (I) coded frame enhancement layer data to have a higher

2    transmission priority level than Predicted (P) frame enhancement layer data; and

3        causing Predicted (P) frame enhancement layer data to have a higher

4    transmission priority level than Bi-directionally (B) predicted frame enhancement

5    layer data.

6

7        12.    (original): The method as recited in Claim 3, wherein the object-

8    based media information further includes a plurality of different types of video

9    object information selected from a group that includes control information, shape

10   information, motion information and texture information.

11

12       13.    (original): The method as recited in Claim 12, wherein associating

13   portions of the object-based media information with the plurality of different

14   transmission priority levels further includes:

15       setting the transmission priority levels based at least in part on the type of

16   video object information.

17

18       14.    (original): The method as recited in Claim 13, wherein setting the

19   transmission priority levels based at least in part on the type of video object

20   information further includes:

21       causing at least a portion of the control information to have a higher

22   transmission priority level than at least a portion of the shape information.

23

1    15.    (original): The method as recited in Claim 13, wherein setting the

2    transmission priority levels based at least in part on the type of video object

3    information further includes:

4        causing at least a portion of the shape information to have a higher

5    transmission priority level than at least a portion of the motion information.

6

7    16.    (original):  The method as recited in Claim 13, wherein setting the

8    transmission priority levels based at least in part on the type of video object

9    information further includes:

10        causing at least a portion of the motion information to have a higher

11    transmission priority level than at least a portion of the texture information.

12

13    17.    (original):  The method as recited in Claim 13, wherein setting the

14    transmission priority levels based at least in part on the type of video object

15    information further includes:

16        causing at least a portion of the texture information to have a higher

17    transmission priority level than at least a portion of the shape information.

18

19    18.    (original):  The method as recited in Claim 3, wherein:

20        the object-based media information includes a plurality of different types of

21    video frame layers selected from a group that includes Intra (I) coded frame layers,

22    Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)

23    coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-

24    directionally (B) predicted frame enhancement layers;

1    the object-based media information further includes a plurality of different

2    types of video object information selected from a group that includes control

3    information, shape information, motion information and texture information; and

4        wherein associating portions of the object-based media information with

5    the plurality of different transmission priority levels further includes setting the

6    transmission priority levels based at least in part on the type of video frame layer

7    and the type of video object information.

8

9        19.    (original):  The method as recited in Claim 18, wherein setting the

10   transmission priority levels based at least in part on the type of video frame layer

11   and the type of video object information further includes:

12       setting control information to a class 0 transmission priority level;

13       setting shape information and texture DC information of at least one Intra

14   (I) coded frame layer to a class 1 transmission priority level;

15       setting texture AC information of the Intra (I) coded frame base layer to a

16   class 2 transmission priority level;

17       setting shape information and motion information of at least one Predicted

18   (P) frame layer to a class 3 transmission priority level;

19       setting texture information of the Predicted (P) frame layer to a class 4

20   transmission priority level; and

21       setting shape information, motion information and texture information of at

22   least one Bi-directionally (B) predicted frame base layer to a class 5 transmission

23   priority level, and

1        wherein the class 0 transmission priority level is higher than the class 1

2   transmission priority level, the class 1 transmission priority level is higher than the

3   class 2 transmission priority level, the class 2 transmission priority level is higher

4   than the class 3 transmission priority level, the class 3 transmission priority level is

5   higher than the class 4 transmission priority level, and the class 4 transmission

6   priority level is higher than the class 5 transmission priority level.

7

8        20.     (original): The method as recited in Claim 1, further comprising:

9        receiving at least one down-stream preference with regard to the object-

10   based media information; and

11        selectively transmitting at least one of the portions of the object-based

12   media information over the network based on the down-stream preference.

13

14        21.     (original): The method as recited in Claim 1, further comprising:

15        receiving at least one down-stream preference with regard to the object-

16   based media information; and

17        selectively halting the transmission of at least one of the portions of the

18   object-based media information over the network based on the down-stream

19   preference.

20

21        22.     (original): The method as recited in Claim 1, wherein the data

22   bitstream includes MPEG-4 encoded video data.

23

1    23.    (original):  The method as recited in Claim 1, wherein the network is

2    an Internet Protocol (IP) based network.

3

4    24.    (currently amended):  An arrangement comprising:

5    a server device configured to provide a data bitstream that includes object-

6    based media information having portions of the object-based media information

7    associated with a plurality of different transmission priority levels and that

8    includes identifications of the associated plurality of different transmission priority

9    levels;

10    at least one client device; and

11    at least one communication network operatively coupled between the server

12    device and the client device, the communication network being configured to

13    provide selective differential services based at least on the plurality of different

14    transmission priority levels of the portions of the object-based media information.

15

16    25.    (original):  The arrangement as recited in Claim 24, wherein the data

17    bitstream includes object-based media information for a single object.

18

19    26.    (original):  The arrangement as recited in Claim 25, wherein the

20    single object is a video object.

21

22    27.    (original):  The arrangement as recited in Claim 25, wherein the

23    single object is an audio object.

24

1       28.  (currently amended): The arrangement as recited in Claim 24,

2  wherein the server device is further configured to place the portions of the object-

3  based media information in a plurality of data packets, wherein each data packet is

4  associated with a specific transmission priority of the plurality of different

5  transmission priority levels.

6

7       29.  (original): The arrangement as recited in Claim 28, wherein at least

8  one of the plurality of data packets includes non-contiguous portions of data from

9  within the data bitstream.

10

11       30.  (currently amended): The arrangement as recited in Claim 28,

12  wherein the communication network is further configured to selectively halt the

13  transmission of a first data packet carrying object-based media information that is

14  associated with a first priority level prior to halting the transmission of a second

15  data packet carrying object-based media information that is associated with a

16  second priority level prior if the second priority level is higher than the first

17  priority level, should a need arise while transmitting the first and second data

18  packets.

19

20       31.  (original): The arrangement as recited in Claim 24, wherein the

21  selective differential services provide different substantially guaranteed Quality of

22  Service (QoS) transmission capabilities for different transmission priority levels.

23

lee@hayes plc 509-324-9256          11         050304203T C:\MSI-0438us\MSI-438US.M01.doc

PAGE 13/32 * RCVD AT 6/1/2004 12:52:06 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:509 323 8979 * DURATION (mm-ss):07-42

1    32.    (original): The arrangement as recited in Claim 26, wherein the

2    object-based media information includes a plurality of different types of video

3    frame layers selected from a group that includes Intra (I) coded frame layers,

4    Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)

5    coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-

6    directionally (B) predicted frame enhancement layers.

7

8    33.    (original): The arrangement as recited in Claim 32, wherein the

9    server device is further configured to set the transmission priority levels based at

10   least in part on the type of video frame layer.

11

12   34.    (original): The arrangement as recited in Claim 33, wherein the

13   server device is further configured to:

14       set Intra (I) coded frame layer data to a higher transmission priority level

15   than Predicted (P) frame layer data;

16       set Predicted (P) frame layer data to a higher transmission priority level

17   than Bi-directionally (B) predicted frame layer data;

18       set Bi-directionally (B) predicted frame layer data to a higher transmission

19   priority level than Intra (I) coded frame enhancement layer data;

20       set Intra (I) coded frame enhancement layer data to a higher transmission

21   priority level than Predicted (P) frame enhancement layer data; and

22       set Predicted (P) frame enhancement layer data to a higher transmission

23   priority level than Bi-directionally (B) predicted frame enhancement layer data.

24

1    35.    (original):  The arrangement as recited in Claim 26, wherein the

2    object-based media information further includes a plurality of different types of

3    video object information selected from a group that includes control information,

4    shape information, motion information and texture information.

5

6    36.    (original):  The arrangement as recited in Claim 35, wherein the

7    server device is further configured to set the transmission priority levels based at

8    least in part on the type of video object information.

9

10    37.    (original):  The arrangement as recited in Claim 36, wherein the

11    server device is further configured to set at least a portion of the control

12    information to a higher transmission priority level than at least a portion of the

13    shape information.

14

15    38.    (original):  The arrangement as recited in Claim 36, wherein the

16    server device is further configured to set at least a portion of the shape information

17    to a higher transmission priority level than at least a portion of the motion

18    information.

19

20    39.    (original):  The arrangement as recited in Claim 36, wherein the

21    server device is further configured to set at least a portion of the motion

22    information to a higher transmission priority level than at least a portion of the

23    texture information.

24

1    40.    (original): The arrangement as recited in Claim 36, wherein the

2    server device is further configured to set at least a portion of the texture

3    information to a higher transmission priority level than at least a portion of the

4    shape information.

5

6    41.    (original): The arrangement as recited in Claim 26, wherein:

7    the object-based media information includes a plurality of different types of

8    video frame layers selected from a group that includes Intra (I) coded frame layers,

9    Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)

10   coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-

11   directionally (B) predicted frame enhancement layers;

12   the object-based media information further includes a plurality of different

13   types of video object information selected from a group that includes control

14   information, shape information, motion information and texture information; and

15   wherein the server device is further configured to set the transmission

16   priority levels based at least in part on the type of video frame layer and the type

17   of video object information.

18

19   42.    (original): The arrangement as recited in Claim 41, wherein the

20   server device is further configured to:

21   set control information to a class 0 transmission priority level;

22   set shape information and texture DC information of at least one Intra (I)

23   coded frame layer to a class 1 transmission priority level;

14

1      set texture AC information of the Intra (I) coded frame base layer to a class

2    2 transmission priority level;

3      set shape information and motion information of at least one Predicted (P)

4    frame layer to a class 3 transmission priority level;

5      set texture information of the Predicted (P) frame layer to a class 4

6    transmission priority level; and

7      set shape information, motion information and texture information of at

8    least one Bi-directionally (B) predicted frame base layer to a class 5 transmission

9    priority level, and

10      where the class 0 transmission priority level is higher than the class 1

11    transmission priority level, the class 1 transmission priority level is higher than the

12    class 2 transmission priority level, the class 2 transmission priority level is higher

13    than the class 3 transmission priority level, the class 3 transmission priority level is

14    higher than the class 4 transmission priority level, and the class 4 transmission

15    priority level is higher than the class 5 transmission priority level.

16

17      43.    (original):   The arrangement as recited in Claim 24, wherein the

18    network is further configured to:

19      receive at least one down-stream preference generated within the

20    communication network or by the client device with regard to the object-based

21    media information; and

22      selectively transmit at least one of the portions of the object-based media

23    information based on the down-stream preference.

24

1       44.   (original): The arrangement as recited in Claim 24, wherein the

2       network is further configured to:

3            receive at least one down-stream preference generated within the

4       communication network or by the client device with regard to the object-based

5       media information; and

6            selectively halt the transmission at least one of the portions of the object-

7       based media information based on the down-stream preference.

8

9       45.   (original): The arrangement as recited in Claim 24, wherein the data

10      bitstream includes MPEG-4 encoded video data.

11

12      46.   (original): The arrangement as recited in Claim 24, wherein the

13      network is an Internet Protocol (IP) based network.

14

15      47.   (currently amended): A method for use in a communications node

16      within a network, the method comprising:

17           receiving data at the communications node that includes object-based media

18      information that is packetized according to different transmission priority levels;

19      and

20           selectively outputting from the communications node the portions of the

21      object-based media information based at least on the plurality of different

22      transmission priority levels.

23

1      48.   (original): The method as recited in Claim 47, wherein the data

2      bitstream includes object-based media information for a single video object.

3

4      49.   (original): The method as recited in Claim 47, wherein the data

5      bitstream includes object-based media information for a single audio object.

6

7      50.   (original): The method as recited in Claim 47, wherein the

8      communication node is configured to support differential services that provide

9      different substantially guaranteed Quality of Service (QoS) transmission

10     capabilities for the different transmission priority levels.

11

12     51.   (original): The method as recited in Claim 47, wherein the object-

13     based media information includes a plurality of different types of video frame

14     layers selected from a group that includes Intra (I) coded frame layers, Predicted

15     (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I) coded frame

16     enhancement layers, Predicted (P) frame enhancement layers, and Bi-directionally

17     (B) predicted frame enhancement layers.

18

19     52.   (original): The method as recited in Claim 51, wherein the received

20     data is packetized according to different transmission priority levels based at least

21     in part on the type of video frame layer.

22

23     53.   (original): The method as recited in Claim 52, wherein, within the

24     received data, at least one of the following statements is true:

1    the Intra (I) coded frame layer data has a higher transmission priority level

2    than Predicted (P) frame layer data;

3    the Predicted (P) frame layer data has a higher transmission priority level

4    than Bi-directionally (B) predicted frame layer data;

5    the Bi-directionally (B) predicted frame layer data has a higher

6    transmission priority level than Intra (I) coded frame enhancement layer data;

7    the Intra (I) coded frame enhancement layer data has a higher transmission

8    priority level than Predicted (P) frame enhancement layer data; and

9    the Predicted (P) frame enhancement layer data has a higher transmission

10   priority level than Bi-directionally (B) predicted frame enhancement layer data.

11

12   54.    (original):  The method as recited in Claim 47, wherein the object-

13   based media information further includes a plurality of different types of video

14   object information selected from a group that includes control information, shape

15   information, motion information and texture information.

16

17   55.    (original):  The method as recited in Claim 54, wherein the received

18   data is packetized according to different transmission priority levels based at least

19   in part on the type of video object information.

20

21   56.    (original):  The method as recited in Claim 55, wherein at least a

22   portion of the control information has a higher transmission priority level than at

23   least a portion of the shape information.

24

1    57.    (original): The method as recited in Claim 55, wherein at least a

2    portion of the shape information has a higher transmission priority level than at

3    least a portion of the motion information.

4

5    58.    (original): The method as recited in Claim 55, wherein at least a

6    portion of the motion information has a higher transmission priority level than at

7    least a portion of the texture information.

8

9    59.    (original): The method as recited in Claim 55, wherein at least a

10   portion of the texture information has a higher transmission priority level than at

11   least a portion of the shape information.

12

13   60.    (original): The method as recited in Claim 47, wherein:

14   the object-based media information includes a plurality of different types of

15   video frame layers selected from a group that includes Intra (I) coded frame layers,

16   Predicted (P) frame layers, Bi-directionally (B) predicted frame layers, Intra (I)

17   coded frame enhancement layers, Predicted (P) frame enhancement layers, and Bi-

18   directionally (B) predicted frame enhancement layers;

19   the object-based media information further includes a plurality of different

20   types of video object information selected from a group that includes control

21   information, shape information, motion information and texture information; and

22   wherein the received data is packetized according to different transmission

23   priority levels based at least in part on the type of video frame layer and the type

24   of video object information.

1

2      61.    (original):  The method as recited in Claim 60, wherein:

3      control information has a class 0 transmission priority level;

4      shape information and texture DC information of at least one Intra (I) coded

5  frame layer each have a class 1 transmission priority level;

6      texture AC information of the Intra (I) coded frame base layer has a class 2

7  transmission priority level;

8      shape information and motion information of at least one Predicted (P)

9  frame layer each have a class 3 transmission priority level;

10      texture information of the Predicted (P) frame layer has a class 4

11  transmission priority level; and

12      shape information, motion information and texture information of at least

13  one Bi-directionally (B) predicted frame base layer each have a class 5

14  transmission priority level, and

15      wherein the class 0 transmission priority level is higher than the class 1

16  transmission priority level, the class 1 transmission priority level is higher than the

17  class 2 transmission priority level, the class 2 transmission priority level is higher

18  than the class 3 transmission priority level, the class 3 transmission priority level is

19  higher than the class 4 transmission priority level, and the class 4 transmission

20  priority level is higher than the class 5 transmission priority level.

21

22      62.    (original):  The method as recited in Claim 47, further comprising:

23      receiving at least one down-stream preference with regard to the object-

24  based media information; and

1    selectively outputting at least one of the portions of the object-based media

2    information based on the down-stream preference.

3

4    63.    (original):  The method as recited in Claim 47, wherein the received

5    data includes MPEG-4 encoded video data.

6

7    64.    (original):  The method as recited in Claim 47, wherein the received

8    data includes Internet Protocol (IP) data.

9

10    65.    (original):  A system comprising:

11    at least one client device configured to receive prioritized video object-

12    based data packets and output control requests relating to a video object;

13    at least one server device configured to output prioritized object-based data

14    packets representing the video object, the prioritized object-based data packets

15    being prioritized based at least on part on the type of data as selected from a group

16    comprising control data, shape data, motion data, and texture data; and

17    at least one video transmission agent (VTA) coupled to receive the

18    prioritized object-based data packets from the server device and the control

19    requests from the client device, and to selectively output at least a portion of the

20    received prioritized object-based data packets to the client device based in

21    response to the control requests.

22

23    66.    (original):  The system as recited in Claim 65, further comprising:

1    a network operatively coupled between the server device and the client

2    device, and wherein the video transmission agent (VTA) is operatively configured

3    within the network.

4

5    67.   (original):  The system as recited in Claim 66, wherein the network

6    is further configured to provide differential services to the prioritized object-based

7    data packets, such that prioritized object-based data packets having lower priority

8    levels are selectively dropped should the network become congested.

9

10   68.   (currently amended):  A computer-readable medium having a data

11   structure, comprising:

12   a first field containing identifying data associated with a portion of a data

13   bitstream that represents a video object;

14   at least one second field that is derived from the first field and includes data

15   representing object-based video information for the video object that has been

16   classified as having a specific transmission priority level based on at least one type

17   of object-based video information selected from a group comprising control

18   information, shape information, motion information, and texture information: and

19   a third field comprising a network packet header and containing identifying

20   data associated with the specific transmission priority level of the data in the

21   second field.

22

23   69.   (canceled)

24

1        70.    (original):    A computer-readable medium having computer-

2   executable instructions for performing the steps recited in Claim 1.

3

4        71.    (original):    A computer-readable medium having computer-

5   executable instructions for performing the steps recited in Claim 47.

6

7

8        72.    (new): A method comprising:

9        receiving a data bitstream that includes object-based media information;

10        associating portions of the object-based media information with a plurality

11 of different transmission priority levels based, at least in part, on whether a given

12 portion of the object-based media information comprises shape information or

13 texture information; and

14        selectively transmitting the portions of the object-based media information

15 over a network that is configured to provide differential services based at least on

16 the plurality of different transmission priority levels.

17

18